

REMARKS

Applicants thank the Examiner for withdrawing the prior rejections of claims 1-5 in view of the Cox article and U.S. Patent No. 5,848,155 to Cox. Applicants also thank the Examiner for identifying allowable subject matter in claim 5.

In the Office Action, the Examiner rejected claims 1 and 4 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,530,759 to Braudaway et al. (hereinafter "Braudaway"); and rejected claims 2 and 3 as allegedly unpatentable under 35 U.S.C. 103(a) over Braudaway in view of the prior art. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Rejections under 35 U.S.C. § 102(b) for alleged lack of novelty

Claims 1 and 4 were rejected under 35 U.S.C. § 102 as allegedly anticipated by Braudaway.

Independent claim 1 is directed to a method for including a watermark in a digital image, comprising the steps of:

obtaining digital data of a transformed representation of the image;  
determining a transformed representation of the watermark for optimized visibility of the watermark in the image; and  
superimposing the transformed representation of the watermark on the transformed representation of the image.

Dependent claims 2-4 depend from, and include the limitations of, claim 1.

Braudaway is directed to a system for placing a visible watermark on a digital image, wherein an image of the watermark is combined with the digital image. As an initial matter, Braudaway is directed to watermarking of still images, without any mention of or concern for video images, which are a important consideration for the claimed invention. As noted in the specification of the present application, the claimed features relate to one of the objects of the invention, i.e., to keep a watermark sufficiently visible throughout a video sequence, wherein the image changes from frame to frame. (Specification, p. 3, lines 13-21). The importance of video data to the present invention is highlighted in the first sentence of the present application. (Specification, p. 1, lines 4-6 (“This invention relates to providing digital image data with a watermark, and, more particularly, where the image data are video data.”)). In contrast, Braudway repeatedly refers to single, still images such as a “painting or photograph” (col. 4, line 11) or JPEG standard images (col. 4, line 25). For at least this reason, Braudway is not directed to solving the same problems as the claimed invention, and does not disclose or suggest all limitations of the claimed invention.

Braudaway differs from the claimed invention in that it fails to disclose or

suggest the optimal visibility of the *transformed* representation of the watermark is determined based on the *transformed* representation of the image - as recited in claim 1. For example, for MPEG video images, the transformed representation is the DCT of the image blocks or the motion compensation prediction errors. Braudway describes that the optimized visibility is determined based on the luminance value of each pixel of the image in the uncompressed domain. In contrast, the method of the present invention determines optimal visibility of the transform coefficients of the watermark directly based on the transform coefficients of the images *without decoding of transform coefficients of the image*. The method for determining optimal visibility of the transform coefficients of the watermark is different from the method described by Braudway, which is performed in the *pixel domain*.

Accordingly, Braudaway fails to disclose or suggest all limitations of the invention of claim 1. For at least these reasons, Applicants respectfully submit that independent claim 1 is in condition for allowance.

With respect to claim 4, the Examiner contends that the claim “is inherent to Braudaway’s disclosure.” See Office Action, p.2. However, Braudaway fails to disclose or even remotely suggest, much less through inherency, that the image “is one of a sequence

of video images.” As noted above, the claimed features relate to one of the objects of the invention, i.e., to keep a watermark sufficiently visible throughout a video sequence, wherein the image changes from frame to frame. (Specification, p. 3, lines 13-21). Braudaway is devoid of any such discussion. Accordingly, because Braudaway fails to disclose or suggest at least this feature, and it is nowhere inherent in the disclosure of Braudaway. In fact, Braudway repeatedly refers to single, still images such as a “painting or photograph” (col. 4, line 11) or JPEG standard images (col. 4m line 25). Claim 4 is further patentable over Braudaway for the reasons set forth above. Applicants respectfully submit that claim 4 is in condition for allowance for at least this additional reason.

Rejections under 35 U.S.C. § 103(a) for alleged obviousness

Claims 2-3 were rejected under 35 U.S.C. § 103 as allegedly unpatentable over Braudaway. Applicant respectfully traverses this rejection.

As noted by the Examiner, Braudaway fails to explicitly disclose that the transformed representation of the image is a compressed representation as claimed in claim 2. (*See* Office Action, p.3). In accordance with the comments above, Applicants submit that Braudaway fails to disclose or suggest one or more additional limitations of claim 2, e.g., through dependency from claim 1, “determining a transformed representation of the

watermark for optimized visibility of the watermark in the image.” Accordingly,

Applicants respectfully submit that claim 2 is in condition for allowance.

Claim 3 was rejected on similar grounds as claim 2. However, by dependency from claim 1, claim 3 includes one or more limitations which are not disclosed or suggested in the prior art, as discussed above. Accordingly, Applicants respectfully submit that claim 3 is in condition for allowance.

CONCLUSION

In view of the foregoing amendment and remarks, favorable reconsideration and allowance of claims 1-5 are respectfully solicited. In the event that the application is not deemed in condition for allowance, the examiner is invited to contact the undersigned in an effort to advance the prosecution of this application.

Respectfully submitted,



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